

No. 765,055.

PATENTED JULY 12, 1904.

E. F. TAFEL.  
APPARATUS FOR FORMING TAPERED TUBES.

APPLICATION FILED MAR. 1, 1904.

NO MODEL.

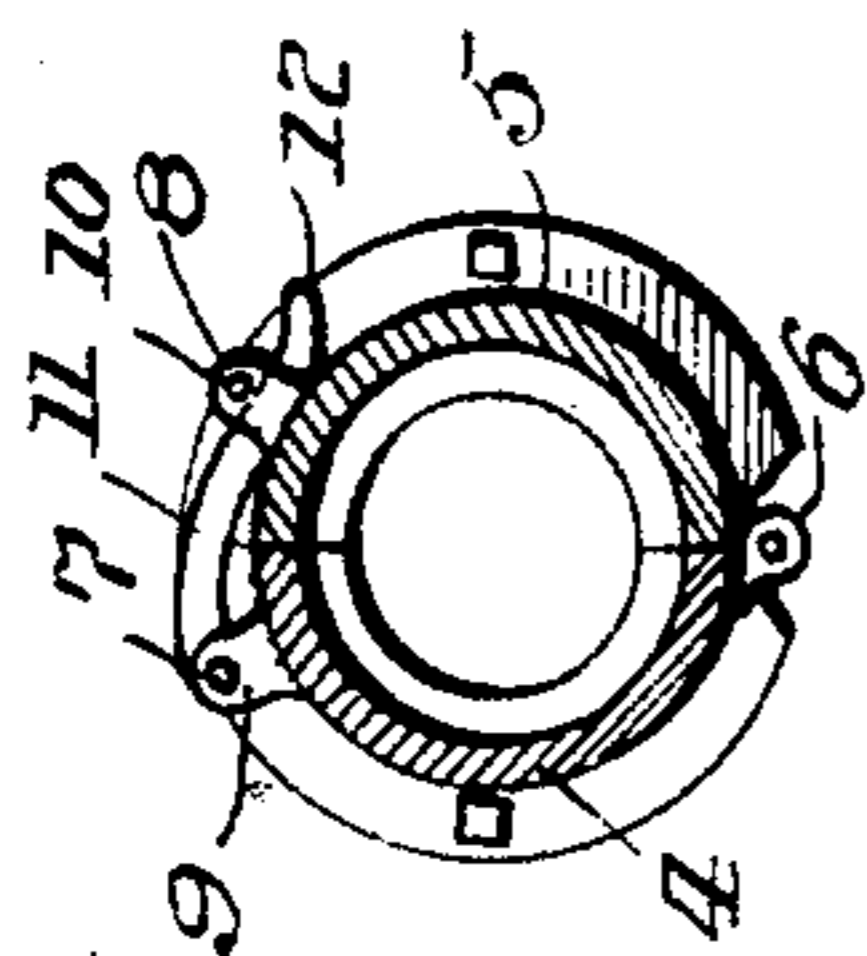


Fig. 3.

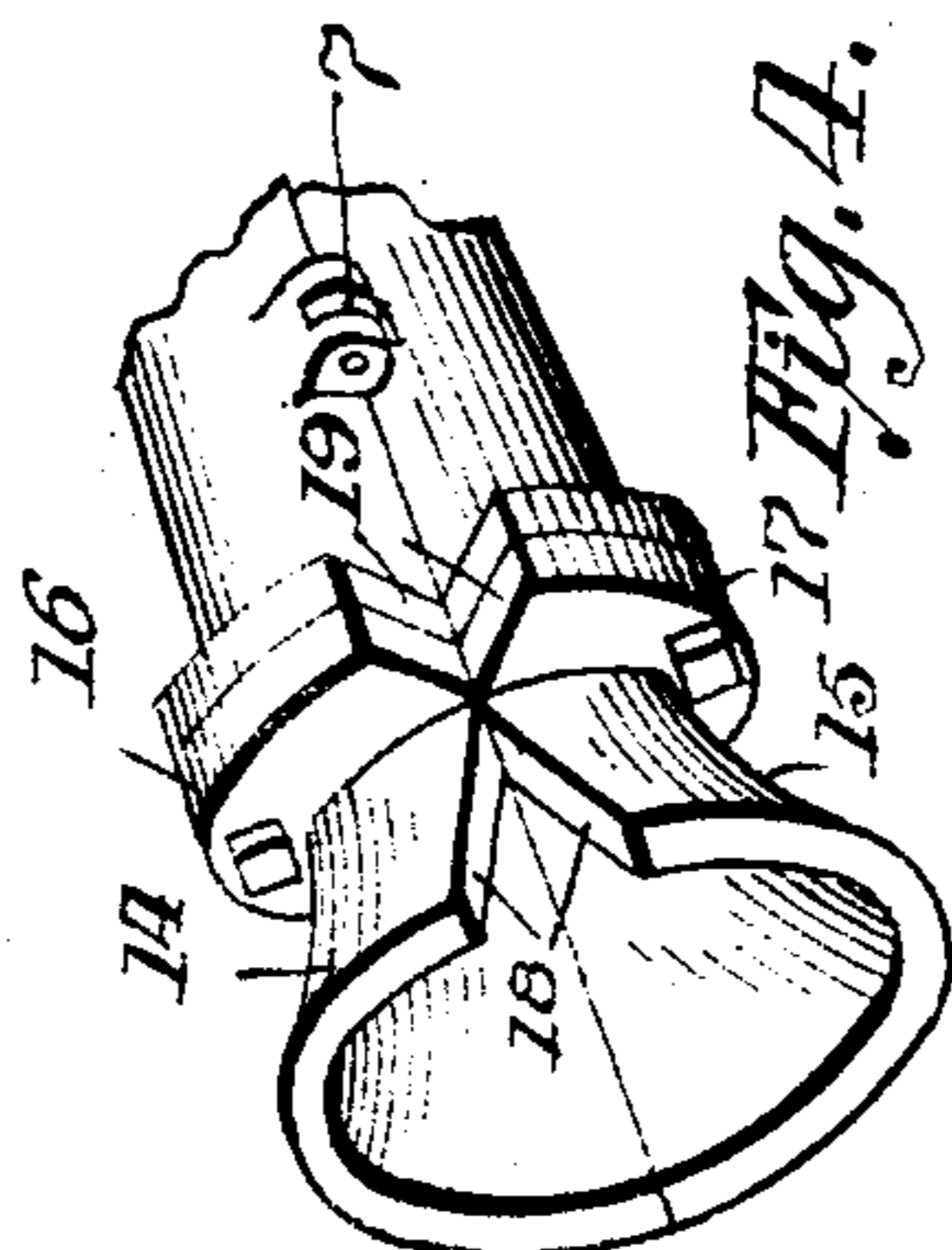


Fig. 4.

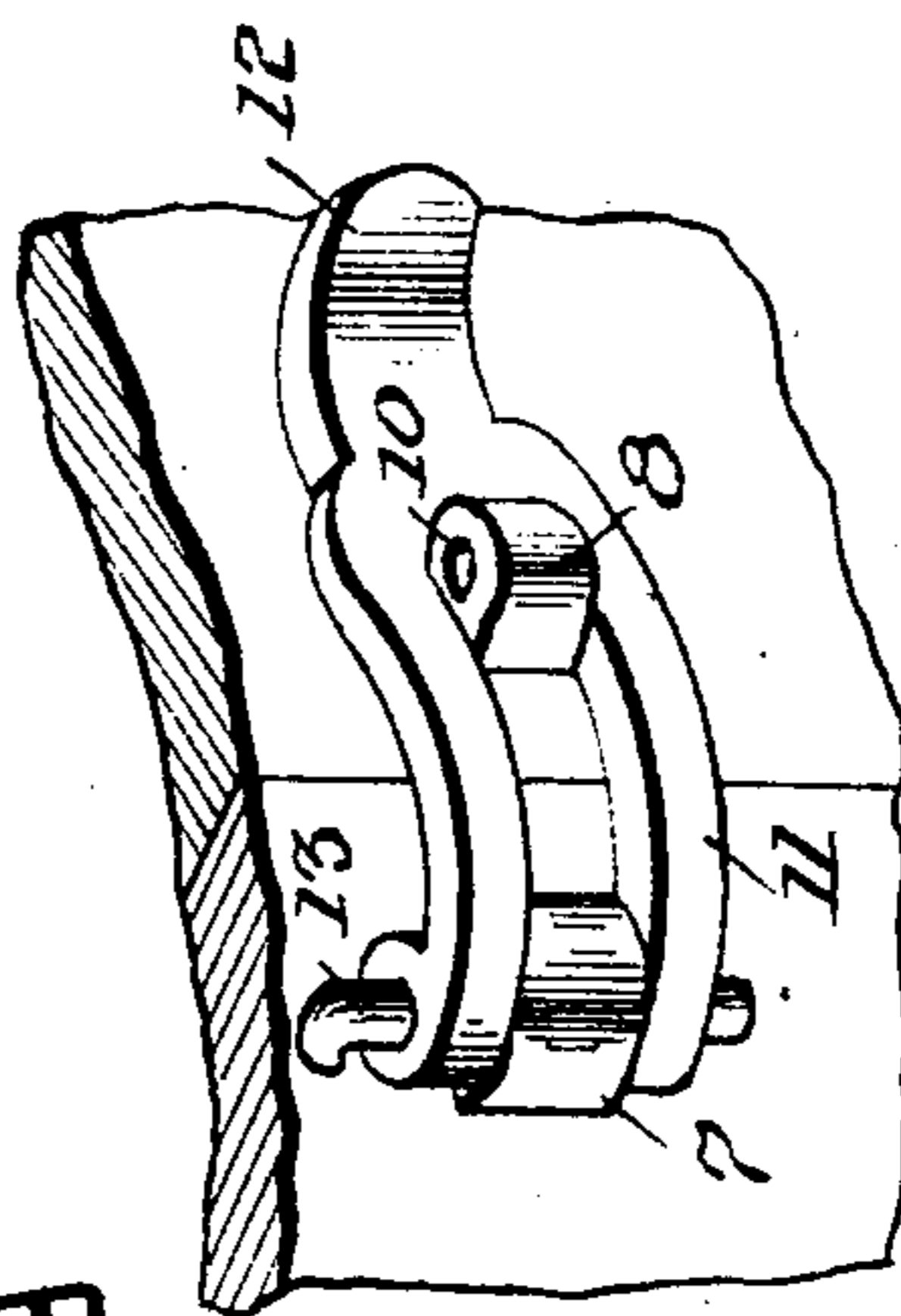


Fig. 5.

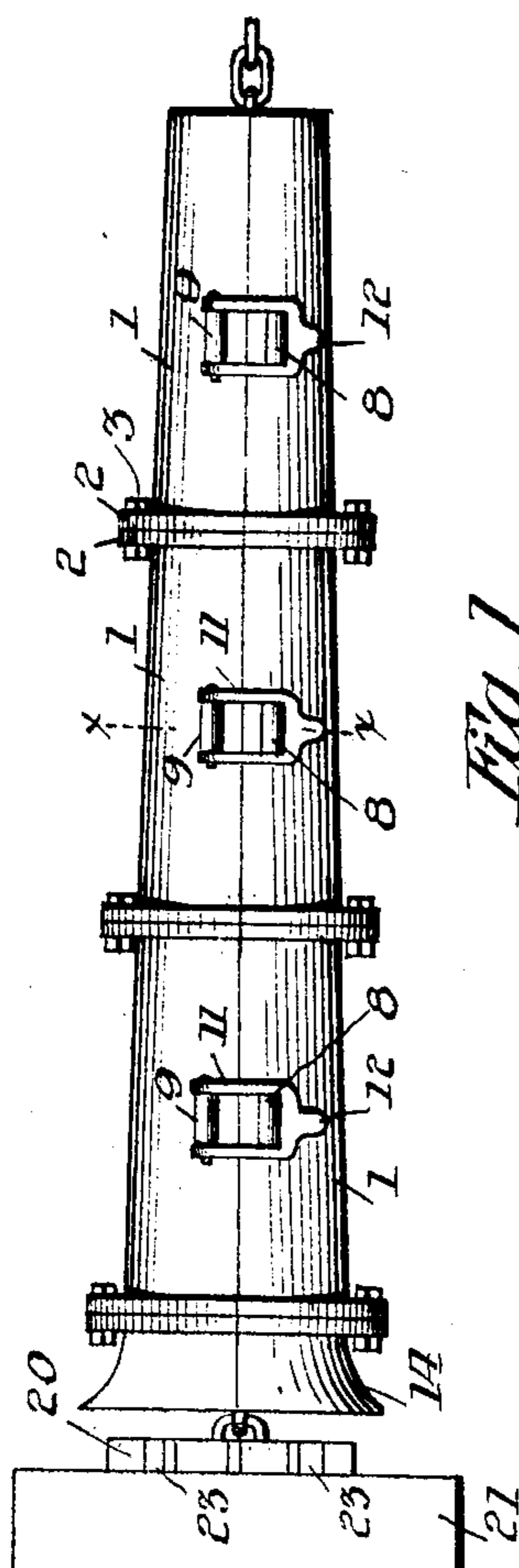


Fig. 1.

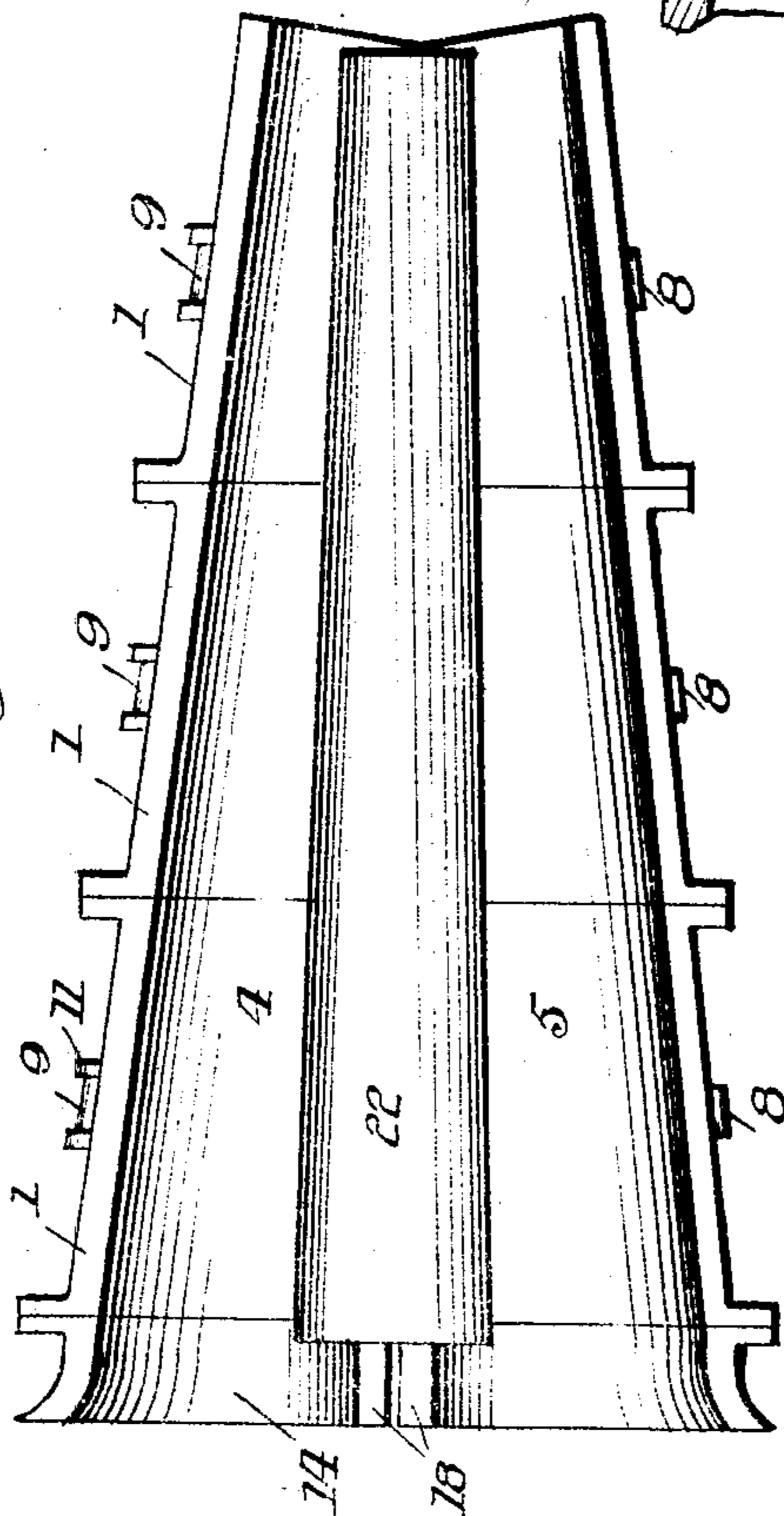


Fig. 2.

Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## APPARATUS FOR FORMING TAPERED TUBES.

SPECIFICATION forming part of Letters Patent No. 765,055, dated July 12, 1904.

Application filed March 1, 1904. Serial No. 195,978. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD F. TAFEL, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Forming Tapered Tubes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to apparatus for forming tapered tubes, and has for its object the provision of means whereby a strip of metal may be easily and speedily shaped to circular form and welded so as to constitute a hollowed tapered section with a butt-welded joint, such section being particularly applicable for use as a telegraph, electric-light, or trolley pole.

In carrying my invention into effect I provide a former composed of the number of tapering concavo-convex parts having abutting flanges united by bolts, and two series of the concavo-convex sections being hinged together and provided with suitable locking devices, the whole constituting a complete former or die, into which a tapering strip of metal is drawn and by means of which the said strip is bent, so as to constitute a tapering tube.

In the accompanying drawings, illustrating my invention, Figure 1 is a plan view of my improvement located in convenient proximity to a heating-furnace, the former being shown in its closed and locked position and with a blank or flat section of metal partly projecting from the furnace and about to be drawn into the former. Fig. 2 is a similar view showing the former opened with the completed tube in position therein. Fig. 3 is a transverse sectional view of the former on the line *x x* of Fig. 1 looking toward the narrower end thereof. Fig. 4 is a perspective view of the wider end of the former, showing a bell-mouth part which is applied to the wider end for the purpose of facilitating the entrance and preliminary formation of the end of the strip or blank. Fig. 5 is a perspective view of one of the latches by means

of which the former is locked in its closed position, said figure being on an enlarged scale.

The former is composed of a suitable number of concavo-convex parts 1, each provided with semicircular flanges 2, united by bolts 3. These parts so united constitute two similar half-sections 4 5, which are connected by hinges 6, arranged at suitable intervals along one of the meeting lines of the half-section, the half-sections being formed on each side of the opposite meeting line with lugs 7 8, said lugs being similarly shaped and pierced at 9 10. A latch 11, which is provided with a handle 12, is pivotally secured to the lug 7 by a pin 13, the said latch when the half-sections of the former are in closed position engaging with the lug 8 and serving to lock the half-sections in their closed position. If necessary, when the latch 11 is in engagement with the lug 8 a pin may be passed through the hole 10 in the lug to secure the latch against accidental disengagement from the lug. At the wider end of the former a bell-mouth is arranged, composed of half-sections 14 15, united to the adjacent parts of the former by half-flanges 16 17, one side of the bell-mouth and of all the flanges of the former being cut away on the side upon which the hinges are arranged, as shown at 18 19 in Fig. 4, so as to permit the former to open.

I construct the former in a plurality of sections for a variety of reasons, among others because this construction facilitates the casting and obviates the difficulties attendant on making extremely large, and particularly on making extremely long castings. Another reason is that being made in sections a section or a half-section may be readily removed and replaced when broken or otherwise damaged.

Operation: The parts being constructed and arranged as above described operate in the following manner: A blank or section of skelp of suitable length and of tapering configuration is heated to a suitable degree in the furnace 21, and a chain 22 being attached thereto the skelp is drawn into the former, the ends thereof being bent upwardly by con-

tact with the sides of the bell-mouth on the end of the former. As the skelp or blank is drawn gradually into the former its edges are curved upwardly and ultimately meet and  
5 become welded as soon as the skelp or blank has been drawn entirely into the former, and the blank is so treated, constituting in its completed shape the tapering tube 22 shown in Fig. 2. As soon as the tube has been  
10 completed the former is opened by throwing back the latches 11, and the half-sections of the former are opened, as shown in Fig. 2, and the completed tube is removed. After the tube has been removed the half-sections  
15 of the former are closed and the latches 11 swung down over the lugs 8 and the operation above described repeated.

The apparatus above described is particularly adapted for the formation of tubes intended to be used as telegraph-poles, trolley-poles, electric-lamp posts, or in other appropriate situations and is specially devised for the purpose of forming tapering tubes having longitudinally-disposed ribs on their inner  
25 surfaces, the blank or skelp 20 being provided with ribs 23, which when the blank is completed by drawing it through the former are on the inside of the completed tube 22.

Having fully described my invention, what I claim as new, and desire to secure by Letters 30 Patent, is—

1. An apparatus for the manufacture of tapering tubes, consisting of tapering half-sections each comprising a plurality of sections, and means carried by each section of one of 35 said half-sections for locking engagement with the sections of the other of said half-sections.

2. A device of the character described, comprising half-sections each composed of a plurality of sections carrying at their ends abutting flanges, means for detachably securing said flanges together, the sections of one half-section being attached to the sections of the other half-section by a hinge at one side and 45 a catch at the opposite side, and a bell-mouth comprising half-sections each provided with flanges detachably connected to those of the first-mentioned half-sections.

In testimony whereof I affix my signature in 50 the presence of two witnesses.

EDWARD F. TAFEL.

Witnesses:

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K. H. BUTLER.